

REMARKS

Claims 1-10, 12, 15, 18, 20-23, 25, 26, 28, 29, 32-48, and 51-57 are pending. By this amendment independent claims 1, 12, 23, 40, and 48 are amended. Claims 29 and 32-39 have been noted as allowed.

I. Claim Rejections 35 USC § 103

1. Claims 1-11, 23, 26, 28, 48, 49, 51, and 54-57 stand rejected under 35 USC § 103(a) as being unpatentable over Williams (U.S. Patent No. 5,754,451) in view of Vines et al. (U.S. Patent No. 6,006,171).

With respect to claims 1, 12, and 48, Applicant still maintains that Vines et al. is still not appropriately combined with Williams and does not teach the feature of selecting a subset of digital channels, i.e., “virtual machines.” The Examiner responds to the arguments previously presented by stating that:

... while Williams does include a direct interface from the maintenance computer to the processing controller not requiring the inclusion of a linking interface, the data read from the process controller directly corresponds to the inputs and outputs issued by the programmable controller (column 5, lines 41-47) and therefore directly corresponds to the individual process variables themselves. Therefore, the invention of Vines would still provide an advantage being implemented in the invention of Williams to interface between the process variable data and the maintenance computer in order to join the process control input and output data with the maintenance determination software, in order to allow the definition of a plurality of virtual groups and provide more detailed runtime data corresponding to each of the groups or individual channels.

Applicant contends that Vines et al, as an interface, only allows the user to match a variable name in one computer, i.e., the process controller, to the variable name in another computer, the maintenance computer. (See Col. 1, lines 57-61, “The

communication may consist of using a graphical user interface to enable a user to *associate process variables* used by the process control software *with equipment identifiers* used by the maintenance management software; also see the steps of the DMM configurator process outlined in Col. 4, lines 33-48 – the user matches process variable to process variable, and can then further define the matched variables with other parameters). Vines does not allow the user to select a subset of digital channels within the process controller to monitor, any such action would actually have to be done on the maintenance computer itself, and that action is not disclosed within Vines.

As such, Applicant has modified the claim language of independent claims 1, 12, and 48 to eliminate any reference to a “virtual machine” but rather use the terminology of “a subset of digital channels” in the hopes that this language, although identical in meaning, would be more clearly understood. Further Applicant, has amended to the claims to indicate at least one the digital channels of these subsets of digital channels includes a digital channel that has been designated as one to be ignored, wherein data from the channel is still taken but any comparison that are done are performed absent the ignored data channel. The ability to select a subset of digital channels, as well as the ability to ignore certain digital channels, makes the analysis portion of the invention that more succinct. Specifically, data coming from a machine or subsection of a machine is fraught with asynchronous data patterns that make the performance of comparisons between past and present data virtually impossible. The result is a number of false alarms and an inability to point to the real cause of a problem on the machine. The ability to select a subset of digital channels as well as ignore certain of those digital channels

enables the invention to substantially eliminate asynchronous patterns so that recurring synchronous patterns can be relied upon for analysis.

In view of the above, Applicant submits that Claims 1-11, 23, 26, 28, 48, 49, 51, and 54-57 are in condition for allowance.

2. Claims 12, 15, 18, 20, and 21 stand rejected under 35 USC §103(a) as being unpatentable over Williams in view of Vines and further in view of U.S. Patent No. 5,870,693 to Seng et al.

With respect to independent claim 12, Applicant reiterates that there is no reason to combine Vines with Williams since Vines does not teach the selection of a subset of digital channels for monitoring. However, additionally, Applicant has amended claim 12 to include the ability to designate from the subset of digital channels, a digital channel that may be ignored enabling the invention to rely on synchronous rather than asynchronous data patterns for analysis. Applicant submits that claims 12, 15, 18, 20, and 21 are in condition for allowance.

3. Claims 40-47 stand rejected under 35 USC §103(a) as being unpatentable over Williams in view of Vines and further in view of U.S. Patent No. 5,586,156 to Gaubatz.

As with the rejections above, and with respect to independent claim 40, Applicant reiterates that there is no teaching within Vines of the selection of a subset of digital channels for monitoring. However, additionally, Applicant has amended claim 40 to include the ability to designate from the subset of digital channels, a digital channel that may be ignored enabling the invention to rely on synchronous rather than asynchronous data patterns for analysis. Applicant submits that claims 41-47 are in condition for allowance.

Application No. 09/650,626

In view of the foregoing, it is submitted that this application is in condition for allowance.

Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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